

MULTIMEDIA



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STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2016/2017

PCA0150 – COMPUTER APPLICATIONS

(Foundation in Information Technology/ Foundation in Life Sciences)

29 MAY 2017
9.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of THREE pages (excluding the cover page).
2. Answer ALL questions.
3. Write your answers in the Answer Booklet.

Instructions: Answer ALL questions. Write your answers in the Answer Booklet.

QUESTION 1 [10 Marks]

- a. An input device is a hardware component that allows users to enter data and instructions into a computer. Some input devices can capture data directly from a source document such as optical readers. Describe the **TWO (2)** technologies being used by optical readers.
(2 marks)
- b. In a computer, there are two types of memory which are volatile memory and nonvolatile memory. Explain what happen to the contents stored in these two memory after the computer is shut down. Give **ONE (1)** example of **EACH** type of the memory.
(3 marks)
- c. Utility programs supplement the operating system in managing files and other special tasks that you might need. Name **SIX (6)** popular stand-alone utility programs.
(3 marks)
- d. Booting is a process of starting or restarting a computer. List and explain briefly **TWO (2)** types of booting.
(2 marks)

QUESTION 2 [10 Marks]

- a. In computer networking, a network standard defines guidelines that specify the ways computers access a medium, the type of medium, the speed of different types of network and the type of physical cable or wireless technology used. TCP/IP is one the network standard. What is TCP/IP and how does it work?
(2 marks)
- b. What does each of the following acronym mean with regards to communication or internet protocols?
 - i. https
 - ii. ftp
 - iii. smtp
(3 marks)
- c. In the past, many organizations exclusively used file processing systems to store and manage data but nowadays lots of application programs are using database approach. Explain **TWO (2)** reasons why database approach is preferred.
(2 marks)
- d. Explain briefly the use of scripting languages in computer programming. Give **FOUR (4)** examples of scripting languages.
(3 marks)

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QUESTION 3 [10 Marks]

- a. What is bit rate and how does it affect the quality of the sound of your MP4 file?
(2 marks)
- b. Name the technique labeled as *X* shown in Figure Q3. Why does the file size of GIFs increase when using this technique?

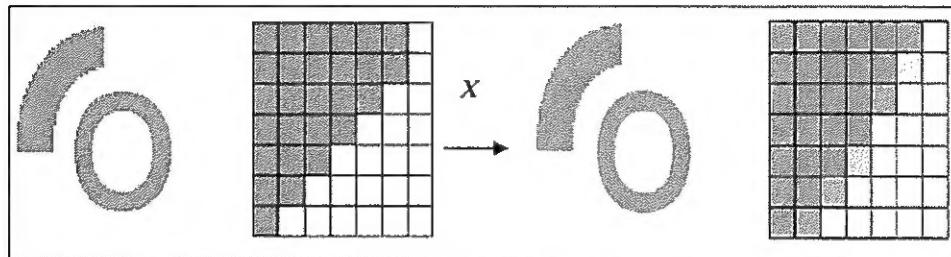


Figure Q3

(2 marks)

- c. Explain briefly a common way through which computers and mobile devices become infected with viruses, and list **SIX (6)** common types of malware.
(4 marks)
- d. One of the more common causes of system failure in a computer is an electrical power variation. It can cause loss of data and loss of equipment. Describe briefly the **TWO (2)** types of electrical disturbances.
(2 marks)

QUESTION 4 [10 Marks]

- a. CD, DVD and Blue ray disc are known to store large amount of data. Compare the following characteristics:
- Physical size.
(1 mark)
 - Player for which disc format is capable of reading all three disc.
(1 mark)
 - Capacity. Rank the storage devices from the highest to the lowest.
(1 mark)
- b. For the following list of computer hardware devices, categorize the principal function of each device either input device, output device, storage device or communication device.
- Speaker
 - Keyboard
 - Monitor
 - Hard drive
 - Modem
 - DVD Drive
- (3 marks)

Continued...

- c. Most of the operating systems provide similar functions, regardless of the type and size of the computer. Operating systems typically contain a performance monitor. Describe briefly the function of the performance monitor program. (2 marks)
- d. Draw a diagram showing two computers from two different network topologies connected to each other. The first network uses Wi-Fi as its communication channel and the second network use a cable as its communication channel. (2 marks)

QUESTION 5 [10 marks]

- a. Luke is a new database administrator at Prime International College. He was asked to create a student's database for the college. During the pilot testing of the system, the admissions department clerk named Mimie accidentally entered a wrong data for credit hours' fees. She entered RM5SS.OI instead of RM533.01. However, the system did not display any error message. Based on the situation, name and describe the type of validity check that is not being carried out for the problem. (2 marks)
- b. Sketch a flow chart based on the following pseudo code:
1. Read in a value for mark
 2. Check if mark is less than 50
 3. If the value is less than 50 output a message "Fail"
 4. Otherwise output the message "Pass"
- (3 marks)
- c. Emma is an English teacher at Sekolah Menengah Belimbing Besi who just recently bought a smartphone. She wants to download some music files to be played during the class session. Describe to Emma **TWO (2)** types of audio downloading technologies and give one example of file format for each type. (2 marks)
- d. As an IT graduate in your family, you are concerned with security measures that you can take to safeguard your home computers. Describe **THREE (3)** ways on how you can advise your family members on the matter. (3 marks)